# California Board of Registered Nursing

# 2011-2012 Annual School Report

Data Summary and Historical Trend Analysis

A Presentation of Pre-Licensure Nursing Education Programs in California

# **Northern California**

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#### INTRODUCTION

Each year, the California Board of Registered Nursing (BRN) requires all pre-licensure registered nursing programs in California to complete a survey detailing statistics of their programs, students and faculty. The survey collects data from August 1 through July 31. Information gathered from these surveys is compiled into a database and used to analyze trends in nursing education.

The BRN commissioned the University of California, San Francisco (UCSF) to conduct a historical analysis of data collected from the 2001-2002 through the 2011-2012 survey. In this report, we present ten years of historical data from the BRN Annual School Survey. Data analyses were conducted statewide and for nine economic regions in California, with a separate report for each region. All reports are available on the BRN website (http://www.rn.ca.gov/).

This report presents data from the 11-county Northern California region. Counties in the region include Del Norte, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Sierra, Siskiyou, and Trinity. All data are presented in aggregate form and describe overall trends in the areas and over the times specified and, therefore, may not be applicable to individual nursing education programs. Additional data from the past ten years of the BRN Annual School Survey are available in an interactive database on the BRN website.

Beginning with the 2011-2012 Annual School Survey, certain questions were revised to allow schools to report data separately for satellite campuses located in regions different from their home campus. This change was made to more accurately report student and faculty data by region, but it has the result that data which were previously reported in one region are now being reported in a different region. However, there were no programs that reported data for a satellite campus in the Northern California region for the 2011-2012 academic year. Therefore the tables presented in this report are not affected by the change in survey design.

<sup>&</sup>lt;sup>1</sup> The nine regions include: (1) Northern California, (2) Northern Sacramento Valley, (3) Greater Sacramento, (4) Bay Area, (5) San Joaquin Valley, (7) Central Coast, (8) Los Angeles Area (Los Angeles and Ventura counties), (9) Inland Empire (Orange, Riverside, and San Bernardino counties), and (10) Southern Border Region. Counties within each region are detailed in the corresponding regional report. The Central Sierra (Region 6) does not have any nursing education programs and was, therefore, not included in the analyses.

#### DATA SUMMARY AND HISTORICAL TREND ANALYSIS

This analysis presents pre-licensure program data from the 2011-2012 BRN School Survey in comparison with data from previous years of the survey. Data items addressed include the number of nursing programs, enrollments, completions, retention rates, new graduate employment, student and faculty census data, the use of clinical simulation, availability of clinical space, and student clinical practice restrictions.

# **Trends in Pre-Licensure Nursing Programs**

# Number of Nursing Programs

Northern California has a total of four pre-licensure nursing programs, this number has been consistent since 2006-2007. Of these programs, three are ADN programs and one is a BSN program. All programs in this region are public.

**Number of Nursing Programs** 

		Academic Year										
	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012		
Total Nursing Programs	3	3	3	3	4	4	4	4	4	4		
ADN	2	2	2	2	3	3	3	3	3	3		
BSN	1	1	1	1	1	1	1	1	1	1		
ELM	0	0	0	0	0	0	0	0	0	0		
Public	3	3	3	3	4	4	4	4	4	4		
Private	0	0	0	0	0	0	0	0	0	0		
Total Number of Schools	3	3	3	3	4	4	4	4	4	4		

No programs reported collaboration with another nursing school to offer a higher degree in nursing in 2011-2012.

	Academic Year										
Partnerships*	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012				
Schools that partner with another program that leads to a higher degree	0%	0%	0%	25.0%	25.0%	25.0%	0%				
Total number of programs	3	3	4	4	4	4	4				

<sup>\*</sup>These data were collected for the first time in 2005-2006.

## Admission Spaces and New Student Enrollments

In 2011-2012, total available space and total new student enrollment continued to decline among the region's pre-license nursing programs.<sup>2</sup> Although available space and new student enrollment has been declining in recent years, the region's programs continued to enroll more students than there were spaces available. In 2011-2012, programs reported 93 spaces available for new students, which were filled with a total of 109 students. This represents the seventh consecutive year in which the region's programs have overenrolled students.

**Availability and Utilization of Admission Spaces** 

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		Academic Year								
	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012
Spaces Available	87	84	116	127	131	147	153	153	113	93
•		-								
New Student Enrollments	87	84	104	144	147	178	172	154	122	109
% Spaces Filled	100.0%	100.0%	89.7%	113.4%	112.2%	121.1%	112.4%	100.7%	108.0%	117.2%

Although Northern California nursing programs continued to receive more applications requesting entrance into their programs than can be accommodated, the number of qualified applications programs in the region received has declined in each of the past two years.<sup>2</sup> The decline in qualified applications received in 2011-2012 (7.2%) was smaller than the decline in new student enrollments in 2011-2012 (10.7%). As a result, there was a larger share of qualified applications not accepted for admission compared to the previous year (57.9% in 2010-2011 vs. 59.5% in 2011-2012).

Student Admission Applications\*

	P P • 61.									
	Academic Year									
	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012
Qualified Applications	62	174	214	343	350	272	419	438	290	269
Accepted	87	84	104	144	147	178	172	154	122	109
Not Accepted	-25	90	110	199	203	94	247	284	168	160
% Qualified Applications Not Accepted	NA	51.7%	51.4%	58.0%	58.0%	34.6%	58.9%	64.8%	57.9%	59.5%

<sup>\*</sup>These data represent applications, not individuals. A change in the number of applications may not represent an equivalent change in the number of individuals applying to nursing school.

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<sup>&</sup>lt;sup>2</sup> The BSN program is no longer accepting new students.

New student enrollments among the region's ADN pre-license programs have been in decline since 2007-2008. New enrollments among the region's pre-license programs have rebounded in the past two years, following two years of declining enrollment. The main driver of falling enrollments is that the region's BSN program is no longer accepting students for admission.

**New Student Enrollment by Program Type** 

		Academic Year									
	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012	
New Student Enrollment	87	84	104	144	147	178	172	154	122	109	
ADN	40	40	50	89	103	118	110	94	102	109	
BSN	47	44	54	55	44	60	62	60	20	0	

#### Student Census Data

The total number of students enrolled in the Northern California region's nursing programs on October 15, 2012 decreased 29.9% (n=72), falling from 241 to 169 students. This decrease is mainly the result of fewer BSN students. Of the total student body in Northern California pre-license nursing programs, 87.6% (n=148) were in ADN programs and 12.4% (n=21) in BSN programs.

#### Student Census Data\*

	Year									
Program Type	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
ADN	86	95	123	132	163	168	160	155	162	148
BSN	113	140	148	130	119	133	177	135	79	21
<b>Total Nursing Students</b>	199	235	271	262	282	301	337	290	241	169

<sup>\*</sup>Census data represent the number of students on October 15<sup>th</sup> of the given year.

#### Student Completions

In 2011-2012, the number of students who completed Northern California nursing programs increased 9.4% (n=13) compared to the previous year. Most of this increase was the result of more ADN completions (13.1% increase, n=11). Of the 152 students that completed a nursing program in Northern California in 2011-2012, 62.5% (n=95) of them completed an ADN program and 37.5% (n=57) completed a BSN program.

**Student Completions** 

•	Academic Year									
	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012
Student Completions	59	59	90	108	122	142	141	146	139	152
ADN	26	29	52	57	82	95	99	90	84	95
BSN	33	30	38	51	40	47	42	56	55	57

#### Retention and Attrition Rates

Of the 148 students scheduled to complete a Northern California nursing program in the 2011-2012 academic year, 90.5% (n=134) completed the program on-time, 4.1% (n=6) are still enrolled in the program, and 5.4% (n=8) dropped out or were disqualified from the program. The region's average retention rate increased by 5% in 2011-2012, after having declined for two consecutive years. The average attrition rate dropped to 5.4% in 2011-2012, the lowest rate in the past ten years.

#### **Student Retention and Attrition**

	<b>4.</b> / 100									
					Acade	mic Year	•			
	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012
Students Scheduled to Complete the Program	77	101	103	98	113	152	129	151	138	148
Completed On Time	60	72	83	85	98	134	119	131	118	134
Still Enrolled	3	5	4	0	3	3	1	2	10	6
Attrition	14	24	16	13	12	15	9	18	10	8
Completed Late <sup>‡</sup>								0	0	2
Retention Rate*	77.9%	71.3%	80.6%	86.7%	86.7%	88.2%	92.2%	86.8%	85.5%	90.5%
Attrition Rate**	18.2%	23.8%	15.5%	13.3%	10.6%	9.9%	7.0%	11.9%	7.2%	5.4%
% Still Enrolled	3.9%	4.9%	3.9%	0.0%	2.7%	1.9%	0.8%	1.3%	7.2%	4.1%

<sup>&</sup>lt;sup>‡</sup>Data were collected for the first time in the 2009-2010 survey. These completions are not included in the calculation of either the retention or attrition rates.

<sup>\*</sup>Retention rate = (students completing program on-time)/(students scheduled to complete)

<sup>\*\*</sup>Attrition rate = (students dropped or disqualified who were scheduled to complete)/(students scheduled to complete)

Note: Blank cells indicate the information was not requested in the given year.

# Employment of Recent Nursing Program Graduates<sup>3</sup>

While the largest share of RN program graduates continues to work in hospitals, it has declined significantly in recent years, falling from a high of 85.0% in 2005-2006 to a low of 39.1% in 2011-2012. Since the 2006-2007 academic year, graduates of programs in the Northern California region have increasingly found employment at long-term care facilities. In 2011-2012, 29.1% of recent graduates reported long term care as their employment setting. The share of recent graduates working as nurses in California has been relatively stable since 2008-2009, and increased slightly in 2011-2012 to 81.3%. Programs reported that 6.9% of recent graduates were unable to find employment in nursing at the time of the survey, which is consistent with one year ago.

**Employment of Recent Nursing Program Graduates** 

	Academic Year									
	2004-	2005-	2006-	2007-	2008-	2009-	2010-	2011-		
Employment Location	2005	2006	2007	2008	2009	2010	2011	2012		
Hospital	82.2%	85.0%	84.0%	76.0%	77.5%	60.5%	48.0%	39.1%		
Long-term care facilities	2.2%	3.3%	2.5%	7.5%	10.0%	14.5%	16.3%	29.1%		
Community/public health facilities	2.2%	5.0%	20.0%	5.0%	12.8%	14.5%	0.3%	5.6%		
Other healthcare facilities	3.3%	6.7%	10.0%	10.0%	5.0%	11.7%	5.8%	17.5%		
Other	1.1%	0%	10.0%	1.5%	0%	3.5%	1.5%	1.9%		
Unable to find employment*						14.5%	6.7%	6.9%		
In California	82.2%	94.7%	90.7%	84.0%	79.5%	78.8%	79.3%	81.3%		

<sup>\*</sup>Data were added to the survey in 2009-2010

Note: Blank cells indicate the information was not requested in the given year

#### Clinical Simulation in Nursing Education

Between 8/1/11 and 7/31/12, all four Northern California nursing schools reported using clinical simulation<sup>4</sup>. All schools reported using a clinical simulation center to provide clinical experiences not available in a clinical setting and to check clinical competencies. Of the four schools that used clinical simulation centers in 2010-2011, 50% (n=2) reported plans to expand the center.

## Reasons for Using a Clinical Simulation Center\*

Reason	2007-08	2008-09	2009-10	2010-11	2011-12
To provide clinical experience not available in a clinical setting	100%	75%	100%	75%	100%
To check clinical competencies	0.0%	75%	100%	100%	100%
To standardize clinical experiences	100%	75%	100%	100%	75%
To make up for clinical experiences	0.0%	50%	25%	50%	25%
To increase capacity in your nursing program	100%	25%	50%	50%	0%
Number of schools that use a clinical simulation center	1	4	4	4	4

<sup>\*</sup>These data were collected for the first time in 2006-2007. However, changes in these questions for the 2007-2008 administration of the survey and lack of confidence in the reliability of the 2006-2007 data prevent comparability of the data. Therefore, data prior to 2007-2008 are not shown.

<sup>&</sup>lt;sup>3</sup> Graduates whose employment setting was reported as "unknown" have been excluded from this table. In 2011-2012, on average, the employment setting was unknown for 32% of recent graduates.

<sup>&</sup>lt;sup>4</sup> Clinical simulation provides a simulated real-time nursing care experience using clinical scenarios and low to hi-fidelity mannequins, which allow students to integrate, apply, and refine specific skills and abilities that are based on theoretical concepts and scientific knowledge. It may include videotaping, de-briefing and dialogue as part of the learning process.

# Clinical Space & Clinical Practice Restrictions<sup>5</sup>

Over the past two years, only one program in Northern California has reported that they were denied access to a clinical placement, unit or shift. That one program reported being denied access to clinical placements in 2011-2012, but to not to a clinical unit or shift. The program that was denied access to a clinical placement was not offered an alternative by the site, and lost two clinical placements as a result.6

Denied Clinical Space	2010-11	2011-12
Programs Denied Clinical Placement	1	1
Programs Offered Alternative by Site	0	0
Placements Lost	2	2
Number of programs that reported	4	4
Programs Denied Clinical Unit	0	0
Programs Offered Alternative by Site	-	-
Units Lost	-	-
Number of programs that reported	4	4
Programs Denied Clinical Shift	0	0
Programs Offered Alternative by Site	-	-
Shifts Lost	-	-
Number of programs that reported	4	4
Total number of students affected	2	0

The program reporting a loss of clinical space in 2011-2012 indicated that it was due to staff nurse overload.

Reasons for Clinical Space Being Unavailable*	2009-10	2010-11	2011-12
Decrease in patient census	0	1	0
Closure, or partial closure, of clinical facility		1	0
Staff nurse overload	1	0	1
Nursing residency programs	1	0	0
Displaced by another program	0	0	0
Competition for clinical space due to increase in number of nursing students in region	0	0	0
Clinical facility seeking magnet status	0	0	0
No longer accepting ADN students	0	0	0
Change in facility ownership/management		0	0
Other	1	0	0
Number of programs that reported	1	1	1

<sup>\*</sup>Data were collected for the first time in the 2009-2010 or 2010-2011 survey.

Note: Blank cells indicated that the applicable information was not requested in the given year.

<sup>&</sup>lt;sup>5</sup> Some of these data were collected for the first time in 2009-2010. However, changes in these questions for the 2010-2011 administration of the survey prevent comparability of the data. Therefore, data prior to 2010-2011 are not shown.

<sup>&</sup>lt;sup>6</sup> The one program that reported experiencing a loss of clinical placements, units, or shifts did not report the number of students affected by the loss.

The program that lost access to clinical space in 2011-2012 reported addressing the lost clinical space using a strategy other than replacement at the same site, replacement at a different site currently being used by the program, or replacement at a new site.

Strategy to Address Lost Clinical Space*	2011-12
Replaced lost space at different site currently used by nursing program	0%
Added/replaced lost space with new site	0%
Replaced lost space at same clinical site	0%
Clinical simulation	0%
Reduced student admissions	0%
Other	100%
Number of programs that reported	1

<sup>\*</sup>Data were collected for the first time during the 2011-2012 survey.

In 2011-2012, two nursing programs in Northern California reported an increase in out-of-hospital clinical placements. Both programs reported an increase in placements at skilled nursing or rehabilitation facilities, as well as increased placements at surgery or ambulatory care centers.

Alternative Clinical Sites*	2010-11	2011-12
Public health or community health agency	-	0%
Skilled nursing/rehabilitation facility	-	100%
Outpatient mental health/substance abuse	-	50%
Medical practice, clinic, physician office	-	50%
Home health agency/home health service	-	50%
School health service (K-12 or college)	-	50%
Hospice	-	0%
Surgery center/ambulatory care center	-	100%
Urgent care, not hospital-based	-	50%
Case management/disease management	-	50%
Correctional facility, prison or jail	-	0%
Occupational health or employee health service	-	0%
Renal dialysis unit	-	0%
Number of programs that reported	0	2

<sup>\*</sup>Data collected for the first time in 2010-2011

In 2011-2012, one school in Northern California reported that its pre-licensure students encountered restrictions to clinical practice imposed on them by clinical facilities. This program indicated that students faced restricted access to electronic medical records, to bar coding medication administration, and restricted access due to student health and safety requirements.

Common Types of Restricted Access for RN Students	2009-10	2010-11	2011-12
Electronic Medical Records	75.0%	0%	100%
Clinical site due to visit from accrediting agency (Joint Commission)	75.0%	0%	0%
Bar coding medication administration	50.0%	0%	100%
Automated medical supply cabinets	50.0%	0%	0%
Glucometers	25.0%	0%	0%
IV medication administration	25.0%	0%	0%
Direct communication with health team	0%	0%	0%
Alternative setting due to liability	0%	0%	0%
Some patients due to staff workload		0%	0%
Student health and safety requirements		0%	100%
Number of schools that reported	4	1	1

Note: Blank cells indicated that the applicable information was not requested in the given year.

# Faculty Census Data<sup>7</sup>

The total number of nursing faculty decreased by 15.6% (n=7) over the last year. On October 15, 2012, there were 38 total nursing faculty<sup>8</sup> in Northern California. Of these faculty, 26.3% (n=10) were full-time and 73.7% (n=28) were part-time. While nursing schools in the region continue to report a need for faculty, the faculty vacancy rate has remained low for three consecutive years. On October 15, 2012, there was one vacant faculty position in the region, representing a 2.6% faculty vacancy rate.

**Faculty Census Data** 

	Year									
	2003	2004	2005*	2006	2007	2008	2009	2010	2011	2012
Total Faculty	23	24	32	34	44	61	56	62	45	38
Full-time	14	15	6	15	17	16	16	14	13	10
Part-time	9	9	12	19	27	45	40	48	32	28
Vacancy Rate**	14.8%	14.3%	8.6%	5.6%	6.4%	6.2%	6.7%	1.6%	2.2%	2.6%
Vacancies	4	4	3	2	3	4	4	1	1	1

<sup>\*</sup>The sum of full- and part-time faculty did not equal the total faculty reported in these years.

Three out of four nursing schools in the Northern California region reported that their faculty worked an overloaded schedule in 2011-2012, and 100% of these schools indicated that these faculty were paid extra as a result.

	Academic Year			
Overloaded Schedules for Faculty*	2008-09	2009-10	2010-11	2011-12
Schools with overloaded faculty	2	2	3	3
Share of schools that pay faculty extra for the overload	100%	100%	66.7%	100%
Total number of schools	4	4	4	4

<sup>\*</sup>These data were collected for the first time in 2008-09.

University of California, San Francisco

<sup>\*\*</sup>Vacancy rate = number of vacancies/(total faculty + number of vacancies)

<sup>&</sup>lt;sup>7</sup> Census data represent the number of faculty on October 15<sup>th</sup> of the given year.

<sup>&</sup>lt;sup>8</sup> Since faculty may work at more than one school, the number of faculty reported may be greater than the actual number of individuals who serve as faculty in nursing schools in the region.

#### Summary

The number of pre-license nursing programs in the Northern California region has remained the same since the 2006-2007 academic year. In 2011-2012, there were no programs that partner with another school to offer a program leading to a higher degree in nursing.

The number of admission spaces available in Northern California pre-licensure nursing education programs has decreased for two consecutive years after reaching a peak in 2009-2010. New student enrollments have experienced a similar trend, peaking in 2007-2008 and decreasing each year since then. These trends in admission space and new enrollments are mainly the result of one of the region's programs no longer accepting students for admission. In 2011-2012, programs in the region received fewer qualified applications to their programs than in any of the past five years, however, nursing programs continue to receive more qualified applications than can be accommodated. In 2011-2012, 59.5% (n=160) applications were not accepted for admission.

Nursing program expansion over the past ten years has led to a growing number of graduates in the region. The region reported 152 completions in 2011-2012, the highest total in the past decade. In addition, the average retention rate in the region increased 5% after declining slightly over the past three years, while the average attrition rate dropped to 5.4% (the lowest in ten years). Data indicate that over the past five years, recent graduates of the region's programs have increasingly turned to long-term care facilities to find employment in nursing, as the share of graduates employed in a hospital-based setting has declined. At the time of the survey, 6.9% of new graduates from the region's RN programs were unable to find employment in nursing.

All four programs in Northern California reported using clinical simulation in 2011-2012, and two of these programs plan to expand its use in the coming year. Only one school reported being denied access to clinical space that had been previously available. Students facing restrictions in the clinical setting has become less common over time. In 2009-2010, all programs in the region reported that students faced restricted access to various aspects of the clinical setting, or the clinical setting itself. However, only one program reported limited access in 2010-2011 and in 2011-2012.

The total number of nursing faculty shows an arcing pattern over the past decade, peaking in 2010. 2012 represents the second consecutive year in which total faculty has declined in the region. This may be related to the fact that one of the region's pre-license nursing programs is no longer admitting students. Faculty vacancy rates have remained low for the past three years with only a single faculty vacancy reported in 2012, representing a 2.6% faculty vacancy rate.

#### **APPENDICES**

### **APPENDIX A – Northern California Nursing Education Programs**

#### **ADN Programs** (3)

College of the Redwoods College of the Siskiyous Mendocino College

#### **BSN Program** (1)

**Humboldt State University** 

# **APPENDIX B – BRN Education Issues Workgroup**

#### **BRN Education Issues Workgroup Members**

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